

STANDARDS CORRELATIONS

CALIFORNIA CONTENT STANDARDS

- This unit has been correlated to all the California Content Standards that are applicable to the unit's content. As of this publication date, the correlation has been done for grades 6–8. Correlations for grades 9–12, when completed, will be posted on the Educators for the Environment website, www.energyforkeeps.org. They will also be included in future editions of this unit.
- The California Content Standards Correlation has been organized by chapter and by grade level. The Standards listed include topics covered anywhere in the chapter, including the discussion section and the accompanying activity(ies). The exception to this is Chapter 3, where you will find the standards correlations broken down into subcategories by energy source.
- Here you will find an Overview for each chapter. On our website, energyforkeeps.org, you will find the complete wording of each standard to which that chapter applies, as well as corrections or additions to the overviews.
- The actual content standards for each discipline have unique organization and numbering systems. We have copied them exactly as they appear in the state documents (see California Department of Education website: www.cde.ca.gov/standards).

NATIONAL SCIENCE STANDARDS

Following the Overviews of the California Content Standards you will find a matrix showing an overview of National Science Standards to which this unit applies. A double asterisk (**) indicates that that Standard is addressed in this unit.

Chapter 1: A Brief History of Energy

GRADE 6

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension - Structural Features 2.1-2.4

1.0 Writing Strategies 1.1-1.6

2.0 Writing Applications 2.1-2.3

1.0 Listening and Speaking Strategies 1.1-1.7

HISTORY AND SOCIAL SCIENCE

6.1 #1

SCIENCE

Heat/Thermal Energy 3a-d

Energy in the Earth System 4a

Resources 6a-c

GRADE 7

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension - Structural Features 2.1-2.4

1.0 Writing Strategies 1.1-1.7

2.0 Writing Applications 2.3-2.5

1.0 Written and Oral English Language Conventions 1.1-1.7

1.0 Listening and Speaking Strategies 1.1-1.8

2.0 Speaking Applications 2.3

HISTORY AND SOCIAL SCIENCE

7.8 #4 and #5

7.10 #1- #3

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension - Structural Features of Informational Materials 2.1-2.4

1.0 Writing Strategies 1.1-1.6

2.0 Writing Applications 2.3-2.5

1.0 Listening and Speaking Strategies 1.1-1.7

2.0 Speaking Applications 2.1 and 2.3

HISTORY AND SOCIAL SCIENCE

Standard 8.12 #1 and #9

Chapter 2: Energy and Electricity

GRADE 6

ENGLISH LANGUAGE ARTS

- 2.0 Reading Comprehension 2.1-2.4
- 1.0 Writing: Organization and Focus 1.1-1.3
- 1.0 Written and Oral English Language Conventions 1.1-1.5
- 1.0 Listening and Speaking Strategies 1.4-1.7
- 2.0 Speaking Applications 2.4a-d and 2.5a-b

MATH

Reinforcement of learned (prior) skills, use of compass and ruler to create pieces needed to complete the activity

SCIENCE

- Heat/Thermal Energy 3a-d
- Resources 6a-c
- Investigation and Experimentation 7b-d

GRADE 7

ENGLISH LANGUAGE ARTS

- 2.0 Reading Comprehension 2.1-2.4
- 1.0 Writing Strategies 1.1-1.3
- 1.0 Written and Oral English Language Conventions 1.1-1.7
- 1.0 Listening and Speaking Strategies 1.1-1.6

MATH

Reinforcement of learned (prior) skills, use of compass and ruler to create pieces needed to complete the activity

SCIENCE

- Investigation and Experimentation 7a-e

GRADE 8

ENGLISH LANGUAGE ARTS

- 2.0 Reading Comprehension 2.1-2.4
- 1.0 Writing Strategies 1.1-1.3
- 1.0 Written and Oral English Language Conventions 1.1-1.6
- 1.0 Listening and Speaking Strategies 1.1-1.7

MATH

Reinforcement of learned (prior) skills, use of compass and ruler to create pieces needed to complete the activity

SCIENCE

- Structure of Matter 3a
- Reactions 5d
- Investigation and Experimentation 9a-c

Chapter 3: Energy Sources for Electricity Generation Chapter Overview

GRADE 6

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

1.0 Writing: Organization and Focus 1.1-1.3

1.0 Written and Oral English Language Conventions 1.1-1.5

2.0 Speaking Applications 2.4-2.5

MATH

Reinforcement of learned (prior) skills, e.g. understanding percentages and pie graphs

SCIENCE

Plate Tectonics and Earth's Structure 1a-c, e, f

Shaping Earth's Surface 2a-c

Heat/Thermal Energy 3a-d

Energy in the Earth System 4a-e

Ecology 5a, b

Resources 6a-c

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution

GRADE 7

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding percentages and pie graphs

SCIENCE

Earth and Life History 4a-f

Physical Principles in Living Systems 6a, e, f

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding percentages and pie graphs

SCIENCE

Structure of Matter 3a, d

Reactions 5a, c, d

Chemistry of Living Systems 6a, b

Density and Buoyancy 8a

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 3: Energy Sources for Electricity Generation Biomass

GRADE 6

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

SCIENCE

Heat/Thermal Energy 3a-d

Energy in the Earth System 4a-e

Ecology 5a, b

Resources 6a-c

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 7

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

SCIENCE

Physical Principles in Living Systems 6a, e, f

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 8

SCIENCE

Reactions 5a, c, d

Structure of Matter 3a, d

Chemistry of Living Systems 6a, b

Density and Buoyancy 8a

Investigation and Experimentation 9a-c

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 3: Energy Sources for Electricity Generation Geothermal

GRADE 6

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

SCIENCE

Plate Tectonics and Earth's Structure 1a-c, e, f

Shaping Earth's Surface 2c

Heat/Thermal Energy 3a-d

Energy in the Earth System 4a-e

Resources 6a-c

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 7

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

SCIENCE

Earth and Life History 4a-f

Physical Principles in Living Systems 6a, e, f

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

SCIENCE

Density and Buoyancy 8a

Structure of Matter 3c, d

Reactions 5c, d

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 3: Energy Sources for Electricity Generation Hydropower

GRADE 6

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

SCIENCE

Shaping Earth's Surface 2a-c

Energy in the Earth System 4a, d, e

Resources 6a-b

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 7

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

SCIENCE

Shaping Earth's Surface 2a-c

Energy in the Earth System 4a, d, e

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

SCIENCE

Density and Buoyancy 8a

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 3: Energy Sources for Electricity Generation Ocean

GRADE 6

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

SCIENCE

Plate Tectonics and Earth's Structure 1a, c

Shaping Earth's Surface 2c

Heat/Thermal Energy 3a, c, d

Energy in the Earth System 4a, d, e

Resources 6a-b

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 7

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

SCIENCE

Earth and Life History 4a

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

SCIENCE

Density and Buoyancy 8a

Motion 1b-e

Forces 2a-e

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 3: Energy Sources for Electricity Generation Solar

GRADE 6

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

SCIENCE

Heat/Thermal Energy 3a, c, d

Energy in the Earth System 4a, b, d, e

Ecology 5 a,b

Resources 6 a-c

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 7

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

SCIENCE

Physical Principles in Living Systems 6a, e, f

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

SCIENCE

Reactions 5a, c, d

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 3: Energy Sources for Electricity Generation Wind

GRADE 6

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. measurement, the metric system, and place value.

SCIENCE

Plate Tectonics and Earth's Structure 1a-c, e, f

Shaping Earth's Surface 2a-c

Heat/Thermal Energy 3a, c, d

Energy in the Earth System 4a-e

Resources 6 a-c

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 7

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of temperature, measurement, the metric system, and place value.

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. measurement, the metric system, and place value.

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 3: Energy Sources for Electricity Generation Hydrogen

GRADE 6

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

SCIENCE

Heat/Thermal Energy 3a-d

Energy in the Earth System 4a-e

Ecology 5a, b

Resources 6a-c

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 7

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

SCIENCE

Physical Principles in Living Systems 6a, e, f

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

SCIENCE

Structure of Matter 3a, d

Reactions 5a, c, d

Chemistry of Living Systems 6a, b

Density and Buoyancy 8a

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 3: Energy Sources for Electricity Generation Fossil Fuels

GRADE 6

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of measurement, the metric system, and place value.

SCIENCE

Plate Tectonics and Earth's Structure 1a-c, e, f

Shaping Earth's Surface 2a-c

Heat/Thermal Energy 3a-d

Energy in the Earth System 4a-e

Ecology 5a, b

Resources 6a-c

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 7

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of measurement, the metric system, and place value.

SCIENCE

Earth and Life History 4a-f

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

MATH

Reinforcement of learned (prior) skills, e.g. understanding of measurement, the metric system, and place value.

SCIENCE

Structure of Matter 3a, d

Reactions 5a, c, d

Chemistry of Living Systems 6a, b

Density and Buoyancy 8a

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 3: Energy Sources for Electricity Generation Nuclear

GRADE 6

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

SCIENCE

Heat/Thermal Energy 3a-d

Resources 6a-c

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 7

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

SCIENCE

Structure of Matter 3a, d

Reactions 5a, c, d

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 3: Energy Sources for Electricity Generation Watt's My Line?

GRADE 6

ENGLISH LANGUAGE ARTS

- 2.0 Reading Comprehension 2.1-2.4
- 1.0 Writing: Organization and Focus 1.1-1.3
- 1.0 Written and Oral English Language Conventions 1.1-1.5
- 1.0 Listening and Speaking Strategies 1.4-1.7
- 2.0 Speaking Applications 2.4-2.5

MATH

Reinforcement of learned (prior) skills or introduction to new ideas, e.g. understanding of pie graphs and charts, measurement, percentages, the metric system, temperature, place value.
Measurement and Geometry 1.0-1.3

SCIENCE

- Plate Tectonics and Earth's Structure 1a-c, e, f
- Shaping Earth's Surface 2a-c
- Heat/Thermal Energy 3a-d
- Energy in the Earth System 4a-e
- Ecology 5a, b
- Resources 6a-c
- Investigation and Experimentation b-d

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 7

ENGLISH LANGUAGE ARTS

- 2.0 Reading Comprehension 2.1-2.4
- 1.0 Writing: Organization and Focus 1.1-1.3
- 1.0 Written and Oral English Language Conventions 1.1-1.7
- 1.0 Listening and Speaking Strategies 1.1-1.6

MATH

Reinforcement of learned (prior) skills or introduction to new ideas, e.g. understanding of pie graphs and charts, measurement, percentages, the metric system, temperature, place value.

SCIENCE

- Earth and Life History 4a-f
- Physical Principles in Living Systems 6a, e, f
- Investigation and Experimentation 7a-e

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 3: Energy Sources for Electricity Generation **Watt's My Line? (continued)**

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

1.0 Writing Strategies 1.1-1.3

1.0 Written and Oral English Language Conventions 1.1-1.6

1.0 Listening and Speaking Strategies 1.1-1.7

MATH

Reinforcement of learned (prior) skills or introduction to new ideas, e.g. understanding of pie graphs and charts, measurement, percentages, the metric system, temperature, place value.

SCIENCE

Structure of Matter 3a, d

Reactions 5a, c, d

Chemistry of Living Systems 6a, b

Density and Buoyancy 8a

Investigation and Experimentation 9a-c

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 4: Energy, Health, and the Environment

GRADE 6

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

1.0 Writing Strategies 1.1-1.3

1.0 Written and Oral English Language Conventions 1.1-1.5

1.0 Listening and Speaking Strategies 1.4-1.7

2.0 Speaking Applications 2.4-2.5

MATH

Reinforcement of learned (prior) skills, e.g. estimating and averaging as well as creation of graphs to display information

SCIENCE

Heat/Thermal Energy 3a-d

Resources 6a-c

Investigation and Experimentation 7b-d

GRADE 7

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

1.0 Writing Strategies 1.1-1.3

1.0 Written and Oral English Language Conventions 1.1-1.7

1.0 Listening and Speaking Strategies 1.1-1.6

MATH

Reinforcement of learned (prior) skills, e.g. estimating and averaging as well as creation of graphs to display information

SCIENCE

Investigation and Experimentation 7a-e

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

1.0 Writing Strategies 1.1-1.3

1.0 Written and Oral English Language Conventions 1.1-1.6

1.0 Listening and Speaking Strategies 1.1-1.7

MATH

Reinforcement of learned (prior) skills, e.g. estimating and averaging as well as creation of graphs to display information

SCIENCE

Reactions 5d

Investigation and Experimentation 9a-c

Structure of Matter 3a, 5d

Chapter 5: Energy Policy and Management

GRADE 6

ENGLISH LANGUAGE ARTS

- 2.0 Reading Comprehension 2.1-2.4
- 1.0 Writing: Organization and Focus 1.1-1.3
- 1.0 Written and Oral English Language Conventions 1.1-1.5
- 1.0 Listening and Speaking Strategies 1.4-1.7
- 2.0 Speaking Applications 2.4-2.5

MATH

Reinforcement of learned (prior) skills, e.g. estimating and averaging as well as creation of graphs to display information

SCIENCE

- Plate Tectonics and Earth's Structure 1a-c, e, f
- Shaping Earth's Surface 2a-c
- Heat/Thermal Energy 3a-d
- Energy in the Earth System 4a-e
- Ecology 5a, b
- Resources 6a-c
- Investigation and Experimentation 7b-d

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

GRADE 7

ENGLISH LANGUAGE ARTS

- 2.0 Reading Comprehension 2.1-2.4
- 1.0 Writing Strategies 1.1-1.3
- 1.0 Written and Oral English Language Conventions 1.1-1.7
- 1.0 Listening and Speaking Strategies 1.1-1.6

MATH

Reinforcement of learned (prior) skills, e.g. estimating and averaging as well as creation of graphs to display information

SCIENCE

- Earth and Life History 4a-f
- Physical Principles in Living Systems 6a, e, f
- Investigation and Experimentation 7a-e

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

Chapter 5: Energy Policy and Management (continued)

GRADE 8

ENGLISH LANGUAGE ARTS

2.0 Reading Comprehension 2.1-2.4

1.0 Writing Strategies 1.1-1.3

1.0 Written and Oral English Language Conventions 1.1-1.6

1.0 Listening and Speaking Strategies 1.1-1.7

MATH

Reinforcement of learned (prior) skills, e.g. estimating and averaging as well as creation of graphs to display information

SCIENCE

Structure of Matter 3a, d

Reactions 5a, c, d

Chemistry of Living Systems 6a, b

Density and Buoyancy 8a

Investigation and Experimentation 9a-c

GOVERNMENT

Understanding of regulatory agencies and laws that govern production of environmental pollution.

NATIONAL SCIENCE CONTENT STANDARDS GRADES 5-8

Standards followed by a double asterisk are addressed in part by the activities within
Energy for Keeps: Electricity from Renewable Energy.

<p>Unifying Concepts and Processes</p> <ul style="list-style-type: none"> ■ Systems, order, and organization** ■ Evidence, models, and explanation** ■ Change, constancy, and measurement** ■ Evolution and equilibrium** ■ Form and Function** 	<p>Science as Inquiry</p> <ul style="list-style-type: none"> ■ Abilities necessary to do scientific inquiry** ■ Understandings about scientific inquiry** 	<p>Physical Science</p> <ul style="list-style-type: none"> ■ Properties and changes of properties in matter** ■ Motion and forces** ■ Transfer of energy** 	<p>Life Science</p> <ul style="list-style-type: none"> ■ Structure and function in living systems** ■ Reproduction and heredity ■ Regulation and behavior ■ Populations and ecosystems ■ Diversity and adaptations of organisms
<p>Earth and Space Science</p> <ul style="list-style-type: none"> ■ Structure of the earth system** ■ Earth’s history** ■ Earth in the solar system 	<p>Science and Technology</p> <ul style="list-style-type: none"> ■ Abilities of technological design** ■ Understandings about science and technology** 	<p>Science in Personal and Social Perspectives</p> <ul style="list-style-type: none"> ■ Personal health ■ Populations, resources, and environments** ■ Natural hazards** ■ Risks and benefits** ■ Science technology in society** 	<p>History and Nature of Science</p> <ul style="list-style-type: none"> ■ Science as a human endeavor** ■ Nature of science ■ History of science**